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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/566,368	09/18/2007	Tsunenori Morioka	075170-0012	2090

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WASHINGTON, DC 20005-3096

EXAMINER

NGUYEN, CHAU N

ART UNIT	PAPER NUMBER
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2831

MAIL DATE	DELIVERY MODE
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06/30/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/566,368	Applicant(s) MORIOKA ET AL.	
	Examiner Chau N. Nguyen	Art Unit 2831	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2 and 4-13 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1,2 and 4-13 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 January 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>1/30/06</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 2, 4-7, and 10-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishiguchi et al. (6,242,097) in view of Mehan et al. (6,403,889).

Nishiguchi et al. (Figure 2) discloses a halogen free flame retardant cable comprising at least one insulated wire, an inner sheath (2a) covering the at least one insulated wire and an outer sheath (2b) covering the inner sheath, wherein the inner sheath includes a polyolefin based resin or a resin composition mainly composed of the polyolefin based resin, the outer sheath includes a crosslinked resin mixture of a thermoplastic polyurethane elastomer and a thermoplastic polyester elastomer, and the outer sheath further includes at least one flame retardant, metal hydroxides, in an amount of 3 to 35 parts by weight per 100 parts by weight of the resin mixture. Nishiguchi et al. also discloses that the at least one

insulated wire is fabricated by stranding two or more insulated wires (re claim 2), the polyolefin based resin included in the inner sheath is an EVA copolymer (re claim 7), the weight ratio of the thermoplastic polyurethane elastomer to the thermoplastic polyester elastomer included in the outer sheath ranges from 20/80 to 80/20 (see abstract) (re claim 10), the outer sheath is crosslinked by exposing an ionizing radiation (re claim 11), the amount of the flame retardant included in the outer sheath ranges from 5 to 22 parts by weight per 100 parts by weight of the resin mixture (re claim 12), and the flame retardant included in the outer sheath is magnesium hydroxide (re claim 13).

Nishiguchi et al. does not disclose the inner sheath further including a flame retardant composed of magnesium hydroxide in an amount of 30 to 120 parts by weight per 100 parts by weight of the polyolefin. Mehan et al. discloses a covering comprising an inner sheath and an outer sheath, wherein the inner sheath includes a flame retardant composed of magnesium hydroxide in an amount of 30 to 120 parts by weight per 100 parts by weight of the polyolefin (col. 5, lines 33-37). It would have been obvious to one skilled in the art to include magnesium hydroxide as taught by Mehan et al. in the inner sheath of Nishiguchi et al. to improve the flame retardancy of the cable.

Re claim 4, it would have been obvious that depending on the specific use of the resulting cable, one skilled in the art would use from 50 to 100 parts by weight of flame retardant per 100 parts by weight of the polyolefin based resin for the inner sheath of Nishiguchi et al. since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable range involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

Re claim 5, it would have been obvious to one skilled in the art to use aluminum hydroxide as the flame retardant in the modified inner sheath of Nishiguchi et al. since aluminum hydroxide is well-known in the art for being used as flame retardant material.

Re claim 6, it would have been obvious to one skilled in the art to use flame retardant having an average particle diameter of 0.1 to 0.9 μm in the modified inner sheath of Nishiguchi et al. to meet the specific use of the resulting cable since smaller particles would easily be dispersed into the polymer matrix and since it has been held that discovering the optimum or workable range involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

3. Claims 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishiguchi et al. in view of Mehan et al. as applied to claim 1 above, and further in view of Tanmachi et al. (JP 07078518).

Claims 8 and 9 additionally recite that the inner sheath also includes an acid-modified polymer and a silane coupling agent in an amount of 0.1 to 3 parts by weight per 100 pbw of the polyolefin based resin. Tanmachi et al. discloses a sheath including polyolefin based resin, an acid-modified polymer and silane coupling agent. It would have been obvious to one skilled in the art to include an acid-modified polymer and a silane coupling agent in the inner sheath of Nishiguchi et al. to not only provide the sheath with flame resistance but also with wear resistance.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chau N. Nguyen whose telephone number is 571-272-1980. The examiner can normally be reached on Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diego F.F. Gutiérrez can be reached on 571-272-2800 ext

31. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Chau N Nguyen/

Chau N Nguyen
Primary Examiner
Art Unit 2831